REMARKS

In reply to the Office Action mailed December 12, 2007, favorable reconsideration is respectfully requested in view of the above amendments and the following remarks. By the above amendment, claim 1 has been amended to be directed to a modulating agent ranging in size from 6 to 15 amino acid residues, and claim 102 has been canceled. In addition, withdrawn claims 3, 4, 8, 16, 17, 19-25, 39-68 and 94-101 have been canceled. Support for the amendment to claim 1 may be found in original claim 6, for example, and elsewhere in the specification as filed. No new matter has been added. The above amendments are not to be construed as acquiescence to the Examiner's stated grounds for rejection and are made without prejudice to prosecution of any subject matter removed or modified by this amendment in a related divisional, continuation or continuation-in-part application. Following the amendments, claims 1, 10, 11, 14 and 18 remain pending in the application.

Rejections Under 35 U.S.C. § 112, first paragraph

Claim 102 stands rejected under 35 U.S.C. § 112, first paragraph, because the specification allegedly does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and or use the invention.

Claim 102 also stands rejected under 35 U.S.C. § 112, first paragraph, as allegedly containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Without acquiescing to the stated grounds for rejection, and without prejudice to further prosecution in a related application, claim 102 has been canceled, rendering these rejections moot.

Rejection Under 35 U.S.C. § 102(b)

Claims 1 and 102 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by WO 97/10258. According to the Examiner, the cited reference teaches a compound consisting essentially of a region of the desmosomal cadherin RWAPIPCSML (Dsc2)

or RWAPIPCSMQ (Dsc3) (page 4). The Examiner asserts that the two amino acid sequences are Trp-containing compounds consisting essentially of a peptide according to Applicants' claims.

Applicants respectfully traverse this rejection. As set forth above, claim 102 has been canceled. In addition, claim 1 has been amended to be directed to a modulating agent ranging in size from 6 to 15 amino acid residues that inhibits desmosomal cadherin-mediated cell adhesion, and consists essentially of the amino acid sequence Arg-Trp-Ala-Pro-Ile-Pro (SEQ ID NO: 2).

The cited reference does not teach the subject matter claimed by Applicants. WO 97/10258 is a German reference and the Examiner appears to have made certain assumptions about the reference teaching isolated peptides having the sequences RWAPIPCSML and RWAPIPCSMQ without translating the surrounding text and without an appreciation for the context in which the sequences are described. A machine translation of the passage referenced by the Examiner, performed using the translation utility available at www.google.com/language_tools?hl=en, reveals that the passage describes antibodies against extracellular regions of desmosomal proteins. The passage does not, however, teach or suggest isolated peptides, as claimed by Applicants, or their use in modulating desmosomal cadherin-mediated cell adhesion.

More specifically, the passage in WO 97/10258 from page 3, line 29 to page 4, line 12, is machine translated as follows:

> "Preference will be given antibodies against the Desmogleine Dsgl, Dsg2 and Dsg3 and Desmocolline Dsc 1, Dsc2 and Dsc3. The antibody epitopes are in the extracellular domains molecule, which prefers the following amino acid sequence areas.
>
> Dsgl: starting with the Deka peptide EWIKFAAACR ending with the Deka peptide AKDLLSDNVH
>
> Dsg2: from the Deka peptide AWITAPVALR ending with the Deka peptide REAQHDSYVG
>
> Dsg3: from the Deka peptide EWVKFAKPCR ending with the Deka peptide TRYGRPHSGR
>
> Dscl: from the Deka peptide RWAPIPASLM ending with the Deka peptide DKSTRDVRPN

> Dsc2 : Starting with the Deka peptide RWAPIPCSML ending with the Deka peptide IGGGGVQLGK
>
> Dsc3: from the Deka peptide RWAPIPCSMQ ending with the Deka peptide PTQCRATSRS
>
> Preferred execution in the form of antibodies against ex-Cad parts of Dsg2. Especially preferred are antibodies, which epitopes within the section of Dsg2, by the following amino acid sequence 1 is intended."

Thus, the passage describes antibodies that bind to desmoglein and desmocollin proteins in "amino acid sequence areas" having beginning and ending points as defined. Clearly, this passage does not describe isolated peptides as claimed by Applicants, much less that such peptides could be used to inhibit desmosomal cadherin-mediated cell adhesion. Reconsideration and withdrawal of this rejection is requested.

Claims 1 and 102 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by WO 94/21809. The cited reference describes the peptide Thr-Val-Leu-Arg-Arg-Ala-Lys-Arg-Arg-Trp-Ala-Pro-Ile-Pro-Cys-Ser-Met-Gln-Glu (page 47, line 14). According to the Examiner, this peptide sequence anticipates Applicants' claimed agent consisting essentially of Arg-Trp-Ala-Pro-Ile-Pro (SEQ ID NO: 2).

Applicants respectfully traverse. Without acquiescence to the stated grounds for rejection, claim 102 has been canceled and claim 1 has been amended to require that the claimed modulating agent ranges in size from 6-15 amino acid residues. As the sequence described by WO 94/21809 is 19 amino acids in length, and claim 1 requires a peptide ranging in size from 6-15 amino acid residues, the reference does not anticipate Applicants' claimed invention. Reconsideration and withdrawal of this rejection is requested.

The Examiner's rejection of claim 102 under 35 U.S.C. § 102(b) over Chidgey et al. (Developmental Dynamics 210: 315-327, 1997) is moot in view of Applicants' cancelation of this claim.

Rejections Under 35 U.S.C. § 103(a) (Obviousness)

Claims 1 and 11 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over WO 97/10258 or WO 94/21809, each in view of U.S. Patent No. 5,455,228. According to the Examiner, WO 97/10258 and WO 94/21809 describe certain peptides related to Applicants' claimed compounds. Also, according to the Examiner, the '228 patent teaches N-terminal acetylation of peptides, allegedly making the subject matter of claim 11 obvious.

Claims 1 and 14 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over WO 97/10258 or WO 94/21809, each in view of U.S. Patent No. 6,936,587. According to the Examiner, WO 97/10258 and WO 94/21809 describe certain peptides related to Applicants' claimed compounds. Also, according to the Examiner, the '587 patent teaches peptides bound to a solid support for use in enriching or purifying specific antibodies, allegedly making the subject matter of claim 14 obvious.

Claims 1 and 18 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over WO 97/10258 or WO 94/21809, each in view of U.S. Patent No. 6,713,450. According to the Examiner, WO 97/10258 and WO 94/21809 describe certain peptides related to Applicants' claimed compounds. Also, according to the Examiner, the '450 patent teaches synthetic peptides or conjugates can be formulated as compositions using pharmaceutically acceptable carriers and excipients, allegedly making the subject matter of claim 18 obvious.

Claims 1 and 10 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over WO 97/10258 or WO 94/21809, each in view of U.S. Patent No. 6,600,013. According to the Examiner, WO 97/10258 and WO 94/21809 describe certain peptides related to Applicants' claimed compounds. Also, according to the Examiner, the '013 patent teaches that peptides may be altered to have a C-terminal hydrophobic amidated tail, allegedly making the subject matter of claim 10 obvious.

Applicants respectfully traverse these rejections on the basis that each rejection is predicated on applying WO 97/10258 or WO 94/21809 as primary references; however, these references are deficient in relation to Applicants' claims for reasons discussed above, and these deficiencies are not made up for by the disclosures of the cited secondary references.

For example, WO 97/10258 describes antibodies that bind to desmoglein and desmocollin proteins in "amino acid sequence areas" having beginning and ending points as defined. The reference does not describe any isolated peptides as claimed by Applicants, much less that such peptides could be used to inhibit desmosomal cadherin-mediated cell adhesion.

Further, WO 94/21809 describes a peptide, Thr-Val-Leu-Arg-Arg-Ala-Lys-Arg-Arg-Trp-Ala-Pro-Ile-Pro-Cys-Ser-Met-Gln-Glu (page 47, line 14), which is 19 amino acids in length, but does not teach or suggest any isolated peptides according to Applicants' claims, ranging in size from 6-15 amino acids residues, which consists essentially of Arg-Trp-Ala-Pro-Ile-Pro (SEQ ID NO: 2), and which is capable of inhibiting desmosomal cadherin-mediated cell adhesion.

The deficiencies of these primary references in relation to Applicants' claimed compounds is simply not remedied by the disclosures of the secondary references cited by the Examiner, which describe certain amino acid modifications, pharmaceutical excipients and solid supports, but which do not teach or suggest the elements of the peptide modulating agents required by Applicants' claims. The skilled artisan simply would not be led by the cited references, taken alone or in combination, to Applicants' specifically claimed compounds when the references do not teach or suggest the elements necessarily required of these compounds, or such compounds can be used for inhibiting desmosomal cadherin-mediated cell adhesion. Reconsideration and withdrawal of this rejection is requested.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Respectfully submitted,

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